WEST Search History

DATE: Tuesday, September 03, 2002

Set Name side by side	Query	Hit Count	Set Name result set
	DB=USPT; PLUR=YES; OP=AND		
L1	(5693479 or 5395825 or 5916751).pn.	3	L1
L2	('5693479'| '5395825')[PN]	2	L2
L3	ebaf or ebafsplice	5	L3

END OF SEARCH HISTORY

WEST

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L3: Entry 1 of 5 File: USPT Aug 6, 2002

DOCUMENT-IDENTIFIER: US 6428966 B1
TITLE: Growth differentiation factor, lefty-1

Other Reference Publication (19):
Kothapalli, Ravi et al., "Detection of ebaf, a Novel Human Gene of the Transforming Growth Facter .beta.Superfamily," J. Clin. Invest. 99:(10)2342-2350, 1997.

WEST

Search Results - Record(s) 1 through 2 of 2 returned.

L2: Entry 1 of 2 File: USPT Dec 2, 1997

US-PAT-NO: 5693479
DOCUMENT-IDENTIFIER: US 5693479 A

TITLE: Fertility determination with transforming growth factor .beta.

DATE-ISSUED: December 2, 1997

US-CL-CURRENT: 435/7.21; 435/7.1, 435/806, 436/503, 436/510, 436/548, 436/65, 436/814, 436/906, 600/34

INT-CL: [06] G01 N 33/567, G01 N 33/577

L2: Entry 2 of 2 File: USPT Mar 7, 1995

US-PAT-NO: 5395825
DOCUMENT-IDENTIFIER: US 5395825 A

TITLE: Fertility regulation with transforming growth factor .beta.

DATE-ISSUED: March 7, 1995

US-CL-CURRENT: 514/21; 514/12, 600/33, 600/34

INT-CL: [06] A61 K 37/02, A61 B 17/425, A61 B 17/435, A61 D 19/04

ile 155:MEDLINE(R) 1966-2002/Sep W1
*File 155: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.

Set Items Description
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Set	Items	Description
S1	14501	E32-E50
S2	14501	R1-R8
S3	14501	R1-R2
S4	15	(S1 OR S2 OR S3) AND B4
S5	197	(S1 OR S2 OR S3) (3N) (BETA? (2N) 4)
S6	197	(S1 OR S2 OR S3) (3N) (BETA (2N) 4) NOT L4
S7	839	(S1 OR S2 OR S3) (N) (BETA)
S8	0	(S1 OR S2 OR S3) (N) (BETA (N) 4)
S9	0	(S1 OR S2 OR S3) (N) (BETA (2N) 4)
S10	0	(S1 OR S2 OR S3) (N) (B (2N) 4)
S11	2	FACTOR (N) BETA4

?s tbfbeta4?
S12 0 TBFBETA4?
?e ebaf

Ref	Items	Index-term
E1	2	EBADI
E2	1	EBAE
E3	10	*EBAF
E4	5	EBAG
E5	1	EBAGM
E6	7	EBAG9
E7	1	EBAI
E8	1	EBAKUATORNUIU
E9	1	EBAKUATSII
E10	2	EBAL
E11	1	EBALDH
E12	1	EBALI

Enter P or PAGE for more
?s e3
S13 10 'EBAF'
?t s13/9/1-10

13/9/1
DIALOG(R)File 155:MEDLINE(R)

13355163 22040321 PMID: 12045020
Decoding implantation and menstruation: the tale of two opposing signals.
Tabibzadeh Siamak
Dept of Obstetrics and Gynecology and Fetomaternal Medicine, Stony Brook University, Stony Brook, NY 11794, USA. Tabibzadeh@bioscience.org
Frontiers in bioscience computer file : a journal and virtual library (United States) Jun 1 2002, 7 pd1475-86, ISSN 1093-4715
Journal Code: 9702166
Contract/Grant No.: CA46866; CA; NCI
Document type: Journal Article; Review; Review, Tutorial
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS
Human endometrium is a unique tissue that undergoes sequential phases of proliferation, and secretory changes followed by tissue shedding and bleeding during menstruation. Tissue remodeling is a distinct feature of human endometrium in the secretory phase which prepares endometrium for implantation during the "receptive phase" of the cycle. A discrete dissolution of extracellular matrix (ECM) by a host of enzymes called matrix metalloproteases (MMP) is required for a successful implantation. In the absence of implantation, as a result of progesterone withdrawal, human

endometrium loses its receptive state in the premenstrual period and subsequently undergoes a generalized breakdown of ECM by MMPs during menstruation. The homeostasis of ECM of endometrium and the delicate balance between its synthesis and degradation appear to be mediated by reciprocal interaction between TGF-beta and **ebaf** (lefty) signaling. While TGF-beta acts as a pro-fibrogenic cytokine and maintains the integrity of ECM in endometrium, expression of lefty is associated with events that lead to destruction of ECM facilitating tissue shedding. (127 Refs.)

Tags: Animal; Female; Human; Support, U.S. Gov't, P.H.S.

Descriptors: *Endometrium--physiology--PH; *Menstruation--physiology--PH; *Ovum Implantation--physiology--PH; *Signal Transduction--physiology--PH; Endometrium--enzymology--EN

Record Date Created: 20020604

13/9/2

DIALOG(R)File 155:MEDLINE(R)

13260917 22057568 PMID: 12062060

The ion channel polycystin-2 is required for left-right axis determination in mice.

Pennekamp Petra; Karcher Christina; Fischer Anja; Schweickert Axel; Skryabin Boris; Horst Jurgen; Blum Martin; Dworniczak Bernd

Universitatsklinikum Munster, Institut fur Humangenetik, 12-14, Vesaliusweg, Germany

Current biology : CB (England) Jun 4 2002, 12 (11) p938-43, ISSN 0960-9822 Journal Code: 9107782

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: In Process

Subfile: INDEX MEDICUS

Generation of laterality depends on a pathway which involves the asymmetrically expressed genes nodal, **Ebaf** , Leftb, and Pitx2. In mouse, node monocilia are required upstream of the nodal cascade. In chick and frog, gap junctions are essential prior to node/organizer formation. It was hypothesized that differential activity of ion channels gives rise to unidirectional transfer through gap junctions, resulting in asymmetric gene expression. PKD2, which if mutated causes autosomal dominant polycystic kidney disease (ADPKD) in humans, encodes the calcium release channel polycystin-2. We have generated a knockout allele of Pkd2 in mouse. In addition to malformations described previously, homozygous mutant embryos showed right pulmonary isomerism, randomization of embryonic turning, heart looping, and abdominal situs. Leftb and nodal were not expressed in the left lateral plate mesoderm (LPM), and **Ebaf** was absent from floorplate. Pitx2 was bilaterally expressed in posterior LPM but absent anteriorly. Pkd2 was ubiquitously expressed at headfold and early somite stages, with higher levels in floorplate and notochord. The embryonic midline, however, was present, and normal levels of Foxa2 and shh were expressed, suggesting that polycystin-2 acts downstream or in parallel to shh and upstream of the nodal cascade.

Record Date Created: 20020613

13/9/3

DIALOG(R)File 155:MEDLINE(R)

10965739 20517351 PMID: 11062482

Loss-of-function mutations in the EGF-CFC gene CFC1 are associated with human left-right laterality defects.

Bamford R N; Roessler E; Burdine R D; Saplakoglu U; dela Cruz J; Splitt M ; Goodship J A; Towbin J; Bowers P; Ferrero G B; Marino B; Schier A F; Shen M M; Muenke M; Casey B

Medical Genetics Branch, National Human Genome Research Institute, National Institutes of Health, Bethesda, Maryland, USA.

Nature genetics (UNITED STATES) Nov 2000, 26 (3) p365-9, ISSN 1061-4036 Journal Code: 9216904

Erratum in Nat Genet 2000 Dec;26(4) 501

Document type: Journal Article

Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

All vertebrates display a characteristic asymmetry of internal organs with the cardiac apex, stomach and spleen towards the left, and the liver and gall bladder on the right. Left-right (L-R) axis abnormalities or laterality defects are common in humans (1 in 8,500 live births). Several genes (such as Nodal, **Ebaf** and Pitx2) have been implicated in L-R organ positioning in model organisms. In humans, relatively few genes have been associated with a small percentage of human situs defects. These include ZIC3 (ref. 5), LEFTB (formerly LEFTY2; ref. 6) and ACVR2B (encoding activin receptor IIB; ref. 7). The EGF-CFC genes, mouse Cfc1 (encoding the Cryptic protein; ref. 9) and zebrafish one-eyed pinhead (oep; refs 10, 11) are essential for the establishment of the L-R axis. EGF-CFC proteins act as co-factors for Nodal-related signals, which have also been implicated in L-R axis development. Here we identify loss-of-function mutations in human CFC1 (encoding the CRYPTIC protein) in patients with heterotaxic phenotypes (randomized organ positioning). The mutant proteins have aberrant cellular localization in transfected cells and are functionally defective in a zebrafish oep-mutant rescue assay. Our findings indicate that the essential role of EGF-CFC genes and Nodal signalling in left-right axis formation is conserved from fish to humans. Moreover, our results support a role for environmental and/or genetic modifiers in determining the ultimate phenotype in humans.

Tags: Animal; Comparative Study; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, Non-P.H.S.; Support, U.S. Gov't, P.H.S.

Descriptors: *Abnormalities, Multiple--genetics--GE; *Fetal Development --genetics--GE; *Growth Substances--genetics--GE; *Head--abnormalities--AB; *Holoprosencephaly--genetics--GE; *Morphogenesis--genetics--GE; *Viscera --abnormalities--AB; Abnormalities, Multiple--embryology--EM; Amino Acid Sequence; Amino Acid Substitution; Codon--genetics--GE; DNA Mutational Analysis; DNA, Complementary--genetics--GE; Dextrocardia--embryology--EM; Dextrocardia--genetics--GE; Embryo, Nonmammalian--abnormalities--AB; Expressed Sequence Tags; Fetal Proteins--genetics--GE; Frameshift Mutation; Genotype; Growth Substances--deficiency--DF; Head--embryology--EM; Mice; Molecular Sequence Data; Open Reading Frames; Phenotype; Point Mutation; Polymorphism, Single-Stranded Conformational; Recombinant Fusion Proteins --metabolism--ME; Sequence Alignment; Sequence Deletion; Sequence Homology, Amino Acid; Situs Inversus--genetics--GE; Species Specificity; Transfection ; Zebrafish--embryology--EM; Zebrafish--genetics--GE

Molecular Sequence Databank No.: GENBANK/AF312769; GENBANK/AF312925

CAS Registry No.: 0 (Codon); 0 (DNA, Complementary); 0 (Fetal Proteins); 0 (Growth Substances); 0 (Recombinant Fusion Proteins); 0 (cryptic protein)

Record Date Created: 20001213

13/9/4

DIALOG(R)File 155:MEDLINE(R)

10806328 20358610 PMID: 10902804

Dysregulated expression of ebaf **, a novel molecular defect in the endometria of patients with infertility.**

Tabibzadeh S; Mason J M; Shea W; Cai Y; Murray M J; Lessey B

Department of Pathology, North Shore University Hospital, Biomedical Research Center, Manhasset, New York 11030, USA. tabibzad@nshs.edu

Journal of clinical endocrinology and metabolism (UNITED STATES) Jul 2000, 85 (7) p2526-36, ISSN 0021-972X Journal Code: 0375362

Contract/Grant No.: CA-8466; CA; NCI; HD-34824; HD; NICHD; HD-35041; HD; NICHD

Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: AIM; INDEX MEDICUS

We recently described the expression of **ebaf** , a novel member of the transforming growth factor-beta superfamily in human endometrium. **ebaf** messenger ribonucleic acid was expressed in late secretory and menstrual

endometria. Here, we show that **ebaf** is secreted as 42-, 34-, 28-, and 14-kDa proteins into the conditioned medium of transfected cells, endometrial fluid, and serum. The amount of secreted proteins was markedly reduced during the implantation window in the endometria and sera of normal fertile subjects. The expression of **ebaf** was dysregulated in the endometria of a subset of women with infertility during the receptive phase of the menstrual cycle. Abundant secreted protein was present in the endometria of these women during the implantation window. During the critical period of endometrial receptivity, **ebaf** protein was more abundant in patients with endometriosis who did not conceive than in patients who became pregnant. These findings show that **ebaf** is a secreted product and is released into body fluids. Some types of infertility are associated with dysregulated expression of **ebaf** in human endometrium, suggesting that a molecular defect in uterine receptivity may be identified using such a marker protein.

Tags: Female; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: *Endometrium--metabolism--ME; *Gene Expression Regulation --genetics--GE; *Infertility, Female--genetics--GE; *Infertility, Female --metabolism--ME; *Transforming Growth Factor beta--biosynthesis--BI; Adult ; Amino Acid Sequence; Blotting, Northern; Blotting, Western; Immunohistochemistry; Menstrual Cycle--metabolism--ME; Molecular Sequence Data; Plasmids--genetics--GE; RNA--isolation and purification--IP; Transfection; Transforming Growth Factor beta--genetics--GE

CAS Registry No.: 0 (Plasmids); 0 (Transforming Growth Factor beta); 0 (endometrial bleeding associated factor); 63231-63-0 (RNA)

Record Date Created: 20000808

13/9/5

DIALOG(R)File 155:MEDLINE(R)

10711610 20258273 PMID: 10797938

From endometrial receptivity to infertility.

Tabibzadeh S; Shea W; Lessey B A; Broome J

North Shore University Hospital, Biomedical Science Research Center, Manhasset, NY 10030, USA.

Seminars in reproductive endocrinology (UNITED STATES) 1999, 17 (3) p197-203, ISSN 0734-8630 Journal Code: 8308354

Contract/Grant No.: CA 56866; CA; NCI

Document type: Journal Article; Review; Review, Tutorial

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

Implantation of the blastocyst in endometrium requires establishment of a coordinated molecular dialogue between the embryo and the endometrium. Factors instrumental in the preparation of a receptive endometrium are derived from the hypothalamic-pituitary-gonadal axis. These factors modulate the expression of genes that drive the endometrium throughout the characteristic menstrual cycles. During each menstrual cycle, a series of coordinated, architectural, morphological, cytochemical, and molecular changes ultimately lead to the preparation of a receptive endometrium during the putative "receptive period" or "implantation window." It is during this critical period that a proper dialogue can be established between an intrusive blastocyst and a receptive endometrium. If, for any reason, this dialogue is not established or is perturbed, the embryo is aborted. The natural fate of the receptive endometrium, in the absence of implantation, is development of a second set of changes that ultimately lead to menstruation. The identity of the molecular repertoire that makes endometrium receptive to implantation and/or lead to menstruation is being revealed and broadly includes cytokines, heat shock factors, adhesion molecules and matrix metalloproteases. We identified a novel gene of the transforming growth factor-beta, superfamily of molecules, the so-called endometrial bleeding--associated factor or **ebaf** , whose expression is confined to the late secretory and menstrual phases. Various forms of female infertility were associated with dysregulated expression of **ebaf** during the implantation window. The findings show an occult molecular defect of endometrial receptivity that seems to be due to dysregulated and premature expression of a member of the premenstrual molecular repertoire.

The dysregulated expression of **ebaf** may assist in the identification, prognostication, and monitoring of treatment of infertile women. (84 Refs.)
Tags: Female; Human; Support, U.S. Gov't, P.H.S.
Descriptors: *Endometrium--physiopathology--PP; *Infertility, Female; Infertility, Female--etiology--ET; Infertility, Female--genetics--GE; Infertility, Female--physiopathology--PP; Ovum Implantation
Record Date Created: 20000518

13/9/6
DIALOG(R)File 155:MEDLINE(R)

10633277 20164323 PMID: 10700179
Regulation of left-right patterning in mice by growth/differentiation factor-1.
Rankin C T; Bunton T; Lawler A M; Lee S J
Department of Molecular Biology and Genetics, Baltimore, Maryland, USA.
Nature genetics (UNITED STATES) Mar 2000, 24 (3) p262-5, ISSN 1061-4036 Journal Code: 9216904
Contract/Grant No.: R01HD30740; HD; NICHD; R01HD35887; HD; NICHD
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS
The transforming growth factor-beta (TGF-beta) superfamily encompasses a large group of structurally related polypeptides that are capable of regulating cell growth and differentiation in a wide range of embryonic and adult tissues. Growth/differentiation factor-1 (Gdf-1, encoded by Gdf1) is a TGF-beta family member of unknown function that was originally isolated from an early mouse embryo cDNA library and is expressed specifically in the nervous systemin late-stage embryos and adult mice. Here we show that at early stages of mouse development, Gdf1 is expressed initially throughout the embryo proper and then most prominently in the primitive node, ventral neural tube, and intermediate and lateral plate mesoderm. To examine its biological function, we generated a mouse line carrying a targeted mutation in Gdf1. Gdf1-/- mice exhibited a spectrum of defects related to left-right axis formation, including visceral situs inversus, right pulmonary isomerism and a range of cardiac anomalies. In most Gdf1-/- embryos, the expression of **Ebaf** (formerly lefty-1) in the left side of the floor plate and Leftb (formerly lefty-2), nodal and Pitx2 in the left lateral plate mesoderm was absent, suggesting that Gdf1 acts upstream of these genes either directly or indirectly to activate their expression. Our findings suggest that Gdf1 acts early in the pathway of gene activation that leads to the establishment of left-right asymmetry.
Tags: Animal; Support, U.S. Gov't, P.H.S.
Descriptors: *Fetal Development--genetics--GE; *Fetal Proteins --physiology--PH; *Growth Substances--physiology--PH; *Nerve Tissue Proteins--physiology--PH; *Situs Inversus--genetics--GE; Blotting, Northern ; Fetal Heart--abnormalities--AB; Fetal Proteins--deficiency--DF; Fetal Proteins--genetics--GE; Gene Expression Regulation, Developmental; Growth Substances--deficiency--DF; Growth Substances--genetics--GE; In Situ Hybridization; Lung--abnormalities--AB; Mice; Mice, Knockout; Morphogenesis --genetics--GE; Nerve Tissue Proteins--deficiency--DF; Nerve Tissue Proteins--genetics--GE; Situs Inversus--embryology--EM; Viscera --abnormalities--AB; Viscera--embryology--EM
CAS Registry No.: 0 (Fetal Proteins); 0 (Growth Substances); 0 (Nerve Tissue Proteins); 138391-30-7 (growth differentiation factor 1)
Record Date Created: 20000407

13/9/7
DIALOG(R)File 155:MEDLINE(R)

10173148 99162193 PMID: 10053005
Characterization and mutation analysis of human LEFTY A and LEFTY B, homologues of murine genes implicated in left-right axis development.
Kosaki K; Bassi M T; Kosaki R; Lewin M; Belmont J; Schauer G; Casey B

Department of Pathology S230, Baylor College of Medicine, Houston, TX 77030, USA.
American journal of human genetics (UNITED STATES) Mar 1999, 64 (3) p712-21, ISSN 0002-9297 Journal Code: 0370475
Contract/Grant No.: HD01078; HD; NICHD; HD36003; HD; NICHD; P30 HD24064; HD; NICHD
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

Members of the transforming growth factor (TGF)-beta family of cell-signaling molecules have been implicated recently in mammalian left-right (LR) axis development, the process by which vertebrates lateralize unpaired organs (e.g., heart, stomach, and spleen). Two family members, Lefty1 and Lefty2, are expressed exclusively on the left side of the mouse embryo by 8.0 days post coitum. This asymmetry is lost or reversed in two murine models of abnormal LR-axis specification, inversus viscerum (iv) and inversion of embryonic turning (inv). Furthermore, mice homozygous for a Lefty1 null allele manifest LR malformations and misexpress Lefty2. We hypothesized that Lefty mutations may be associated with human LR-axis malformations. We now report characterization of two Lefty homologues, LEFTY A and LEFTY B, separated by approximately 50 kb on chromosome 1q42. Each comprises four exons spliced at identical positions. LEFTY A is identical to **ebaf** , a cDNA previously identified in a search for genes expressed in human endometrium. The deduced amino acid sequences of LEFTY A and LEFTY B are more similar to each other than to Lefty1 or Lefty2. Analysis of 126 human cases of LR-axis malformations showed one nonsense and one missense mutation in LEFTY A. Both mutations lie in the cysteine-knot region of the protein LEFTY A, and the phenotype of affected individuals is very similar to that typically seen in Lefty1-/- mice with LR-axis malformations.

Tags: Animal; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.
Descriptors: *Body Patterning--genetics--GE; *Transforming Growth Factor beta--genetics--GE; Amino Acid Sequence; Base Sequence; Chromosomes, Human, Pair 1; Exons; Genomic Library; In Situ Hybridization, Fluorescence; Introns; Mice; Models, Genetic; Molecular Sequence Data; Mutation; Phenotype; Placenta--metabolism--ME; Polymorphism, Single-Stranded Conformational; Restriction Mapping; Sequence Homology, Amino Acid
CAS Registry No.: 0 (Transforming Growth Factor beta); 0 (lefty protein)
Record Date Created: 19990420

13/9/8
DIALOG(R)File 155:MEDLINE(R)

10171749 99149843 PMID: 10027597
Molecular control of the implantation window.
Tabibzadeh S
Department of Pathology, Moffitt Cancer Center and the University of South Florida, Tampa 33612, USA. tabibzadeh@moffitt.usf.edu
Human reproduction update (ENGLAND) Sep-Oct 1998, 4 (5) p465-71, ISSN 1355-4786 Journal Code: 9507614
Contract/Grant No.: CA46866; CA; NCI
Document type: Journal Article; Review; Review, Academic
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: INDEX MEDICUS

Human endometrium is the end organ of the hypothalamic-pituitary-ovarian axis. Therefore, endometrium is susceptible to changes in the cases of infertility that originate from disturbances in the normal functioning of this axis. In addition, some cases of unexplained infertility may be due to altered endometrial function. This disturbed endometrial function may originate from lesions in the molecular repertoire that are crucial to implantation. Human endometrium becomes receptive to implantation by the blastocyst within a defined period during the menstrual cycle. The duration of this so-called 'endometrial receptivity' or 'implantation' period seems

to span from few days after ovulation to several days prior to menstruation. Successful implantation results from a co-ordinated series of events that would allow establishment of a timely dialogue between a receptive endometrium and an intrusive blastocyst. The members of the molecular repertoire that make endometrium receptive to implantation are gradually being recognized. Among these are the cytokines, integrins, heat shock proteins, tastin and trophinin. In addition, the expression of a second set of genes including tumour necrosis factor alpha (TNF-alpha) and **ebaf** , may be the appropriate signal for the closure of the 'implantation window', for making the endometrium refractory to implantation and for preparing it for the menstrual shedding. (74 Refs.)

Tags: Animal; Female; Human; Support, U.S. Gov't, P.H.S.

Descriptors: *Endometrium--physiology--PH; *Ovum Implantation--physiology --PH; Fertility--genetics--GE; Infertility, Female--etiology--ET; Infertility, Female--genetics--GE; Infertility, Female--physiopathology --PP; Ovum Implantation--genetics--GE

Record Date Created: 19990416

13/9/9

DIALOG(R)File 155:MEDLINE(R)

09908583 98328280 PMID: 9665343

Temporal and site-specific expression of transforming growth factor-beta4 in human endometrium.

Tabibzadeh S; Lessey B; Satyaswaroop P G

Department of Pathology, Moffitt Cancer Center, Tampa, FL 33612, USA. tabibzadeh@bioscience.org

Molecular human reproduction (ENGLAND) Jun 1998, 4 (6) p595-602, ISSN 1360-9947 Journal Code: 9513710

Contract/Grant No.: CA46866; CA; NCI; CA62211; CA; NCI; HD34824; HD; NICHD

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: Completed

Subfile: INDEX MEDICUS

We recently identified a novel member of the transforming growth factor (TGF)-beta superfamily and showed that this gene, designated as endometrial bleeding associated factor (**ebaf**), or TGFbeta4, has a unique expression pattern in human endometrium. By Northern blot analysis, we showed that this gene was expressed in human endometrium during the late secretory and menstrual phases and was absent in proliferative, early and mid-secretory endometria. In this report, we show by in-situ hybridization that the mRNA of the TGF-beta4 is not expressed in the proliferative endometria. On the other hand, focal expression of the TGFbeta4 mRNA first appears in some endometrial glands in the mid-secretory phase. The TGFbeta4 mRNA is strongly expressed in the endometrial stroma during the late secretory and menstrual phases of the cycle. We raised a polyclonal rabbit antiserum against a peptide at the C terminal of the protein. Western blot analysis using affinity purified antiserum shows that the TGFbeta4 precursor detected in the endometrium as well as placenta is 41 kDa. Bands in the range of 45-51 kDa are also present in human endometrium, more predominantly during the late secretory phase. Immunohistochemical staining shows a low level of immunoreactivity for TGFbeta4 in the early, mid- and late proliferative and early and mid-secretory endometria. A strong immunoreactivity for TGFbeta4 is present in the stroma and to lesser extent in the endometrial glands in late secretory and menstrual endometria. The specificity of staining was shown by neutralizing the activity of the antibody with the synthetic peptide used for raising the antibody and by omitting the antibody. The findings show that TGFbeta4, both at the mRNA and protein levels, exhibits temporal and site specific expression in human endometrium.

Tags: Animal; Female; Human; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: *Endometrium--metabolism--ME; *Gene Expression Regulation; *Menstrual Cycle--genetics--GE; *Transforming Growth Factor beta --biosynthesis--BI; Amino Acid Sequence; Blotting, Western; Immunoenzyme Techniques; In Situ Hybridization; Molecular Sequence Data; Multigene

Family; Peptide Fragments--immunology--IM; RNA, Messenger--biosynthesis--BI ; RNA, Messenger--genetics--GE; Rabbits; Transforming Growth Factor beta --genetics--GE; Transforming Growth Factor beta--immunology--IM
CAS Registry No.: 0 (Peptide Fragments); 0 (RNA, Messenger); 0 (Transforming Growth Factor beta)
Record Date Created: 19981022

13/9/10
DIALOG(R)File 155:MEDLINE(R)

09386991 97298127 PMID: 9153275
Detection of ebaf , a novel human gene of the transforming growth factor beta superfamily association of gene expression with endometrial bleeding.
Kothapalli R; Buyuksal I; Wu S Q; Chegini N; Tabibzadeh S
Department of Pathology, Moffitt Cancer Center, Tampa, Florida 33612, USA.
Journal of clinical investigation (UNITED STATES) May 15 1997, 99 (10) p2342-50, ISSN 0021-9738 Journal Code: 7802877
Contract/Grant No.: CA46866; CA; NCI
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: Completed
Subfile: AIM; INDEX MEDICUS
Human endometrium is unique since it is the only tissue in the body that bleeds at regular intervals. In addition, abnormal endometrial bleeding is one of the most common manifestations of gynecological diseases, and is a prime indication for hysterectomy. Here, we report on a novel human gene, endometrial bleeding associated factor (**ebaf**), whose strong expression in endometrium was associated with abnormal endometrial bleeding. In normal human endometrium, this gene was transiently expressed before and during menstrual bleeding. In situ hybridization showed that the mRNA of **ebaf** was expressed in the stroma without any significant mRNA expression in the endometrial glands or endothelial cells. The predicted protein sequence of **ebaf** showed homology with and structural features of the members of TGF-beta superfamily. Fluorescence in situ hybridization showed that the **ebaf** gene is located on human chromosome 1 at band q42.1. Thus, **ebaf** is a novel member of the TGF-beta superfamily and an endometrial tissue factor whose expression is associated with normal menstrual and abnormal endometrial bleeding.
Tags: Comparative Study; Female; Human; Support, U.S. Gov't, P.H.S.
Descriptors: *Chromosomes, Human, Pair 1; *Endometrium--metabolism--ME; *Menstrual Cycle; *Menstruation Disturbances--metabolism--ME; *Multigene Family; Adult; Amino Acid Sequence; Base Sequence; Chromosome Mapping; DNA Primers; Endometriosis--metabolism--ME; Leiomyoma--metabolism--ME; Menorrhagia--metabolism--ME; Molecular Sequence Data; Polymerase Chain Reaction; Sequence Homology, Amino Acid; Transforming Growth Factor beta --biosynthesis--BI; Uterine Neoplasms--metabolism--ME
Molecular Sequence Databank No.: GENBANK/U81523
CAS Registry No.: 0 (DNA Primers); 0 (Transforming Growth Factor beta)
Record Date Created: 19970617
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$1.57 0.492 DialUnits File155
$2.10 10 Type(s) in Format 9
$2.10 10 Types
$3.67 Estimated cost File155
$0.21 TELNET
$3.88 Estimated cost this search
$3.88 Estimated total session cost 0.492 DialUnits

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